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BULLETIN OF BUSINESS RESEARCH

COLLEGE OF COMMERCE & ADMINISTRATION
THE OHIO STATE UNIVERSITY

Vol. II SEPTEMBER, 1927 Number 8

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BULLETIN OF BUSINESS RESEARCH

VOL. II | SEPTEMBER, 1927 | NUMBER 8

BUSINESS CONDITIONS SUMMARY

Bank debits indexes show that a large volume of trade and industry continues and that the country's prosperity has had no serious disturbance.

The volume of construction contracts awarded continues to be the mainstay of the present industrial prosperity. There was a decrease of 8 per cent from August, 1926, contracts in the United States and a 13.4 per cent increase for the same period in Ohio.

Construction employment in Ohio in August improved 7 per cent in comparison with July but is 11.2 per cent below its status in August, 1926.

Metal trades employment declined in August.

Employment in foundries and machine shops in Ohio declined 6.7 per cent in August from the July figure but is still equal to that of August, 1926.

Employment in automobile and auto parts production declined 2.8 per cent in August from July and is 16.1 per cent below August, 1926.

The composite index of industrial employment in Ohio (Chart I below) declined again in August and is almost as low as in the summer of 1924.

Automobile production and sales for cheaper cars continued to decline during August. Sales of medium priced cars continue to increase.

Interest rates in August were at their lowest point since April, 1925. The call rate rose again the second week in September.

The stock market continues its extended bull movement with occasional set-backs growing out of a weak technical position and a large volume of brokerage loans.

TABLE I

SUMMARY OF BUSINESS CONDITIONS IN THE CITIES OF OHIO—AUGUST, 1927

Per Cent Change from (1) Previous Month and (2) Same Month Last Year

City	Bank Debits		Construction Contracts Awarded		Construction Employment		Metal Trades Employment		Foundries and Machine Shops Employment		Passenger Car Bills of Sale Filed		Other Series for State of Ohio		
	*(1)	(2)	*(1)	(2)	*(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Series	(1)	(2)
Akron	— 3.3	+15.8	— 17.1	+ 98.1	+ 4.3	—28.4	—	—	—	—	— 2.2	— 3.0	EMPLOYMENT:		
Canton	—11.2	— 2.6	—	—	+150.8	—23.1	—6.0	—13.3	—	—	+ 3.4	—	Steel Works	— 3.6	— 9.7
Cincinnati	+ 3.9	+22.9	+ 44.7	+ 63.2	+ .7	+82.3	+5.6	— 7.1	+3.9	— 6.0	+16.0	—11.0	Blast Furnaces	—19.3	—29.2
Cleveland	— 6.0	+ 6.1	+ .6	— 21.3	+ 12.2	—11.4	—3.1	—10.5	—3.7	+23.0	— 3.6	—14.0	Composite Iron and Steel	— 6.2	— 5.1
Columbus	+ 4.9	+ 3.3	+ 7.1	— 28.3	+ 20.4	—22.9	—1.7	—17.4	—3.8	— 6.7	+13.3	—	Composite Industrial	— 3.5	— 8.0
Dayton	— 5.0	+ 6.7	+348.8	+461.5	+ 3.3	—28.9	—	—	—1.8	+ 7.2	+ 8.0	—	Auto and Auto Parts Mfgrs.	— 2.8	—16.1
Toledo	+ 5.6	+ .8	— 69.9	— 80.1	— 7.5	+13.0	—5.5	—18.0	—	—	— 6.6	—40.0	WHOLESALE GROC. SALES	+ 4.9	— 1.7
Youngst'n	— 2.5	— 6.8	+332.1	+104.6	— 21.7	+17.3	—	—	—	—	— 6.9	—	RETAIL DRY GOODS SALES	+ 8.3	+ .3
STATE	— 1.3	+ 9.0	+ 25.2	+ 13.4	+ 7.0	—11.2	—3.6	—13.5	—6.7	+ .2	— .2	—			

*The usual seasonal change is allowed for.

CHART I

COMPOSITE INDEX OF INDUSTRIAL EMPLOYMENT IN OHIO AND CLEVELAND DISTRICT INDEX OF DEPARTMENT STORE SALES

Average Month 1923 Equals 100 in Both Series

Department Store Sales Index Corrected for Seasonal Variation and Smoothed by a 3 Months' Moving Average

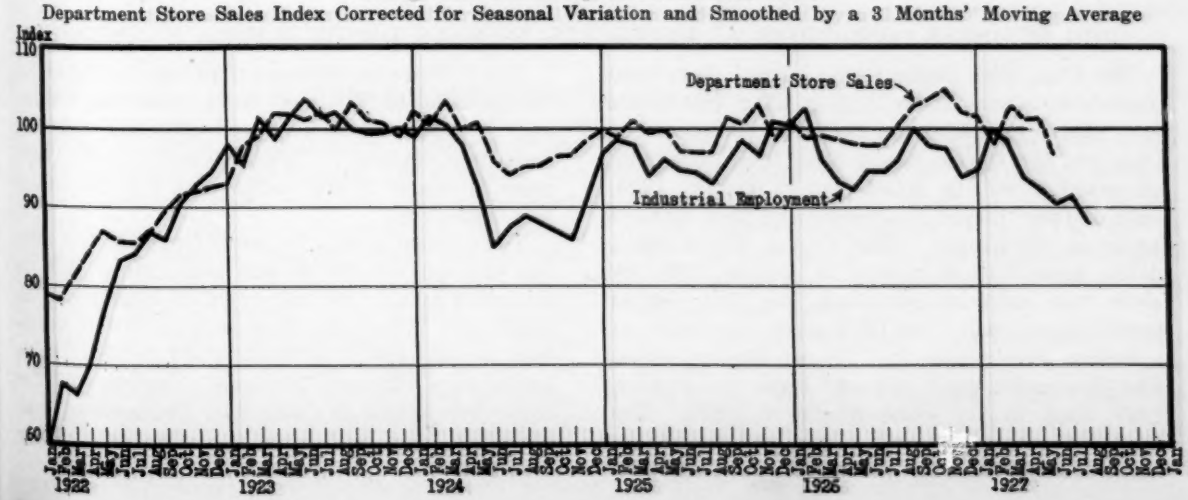
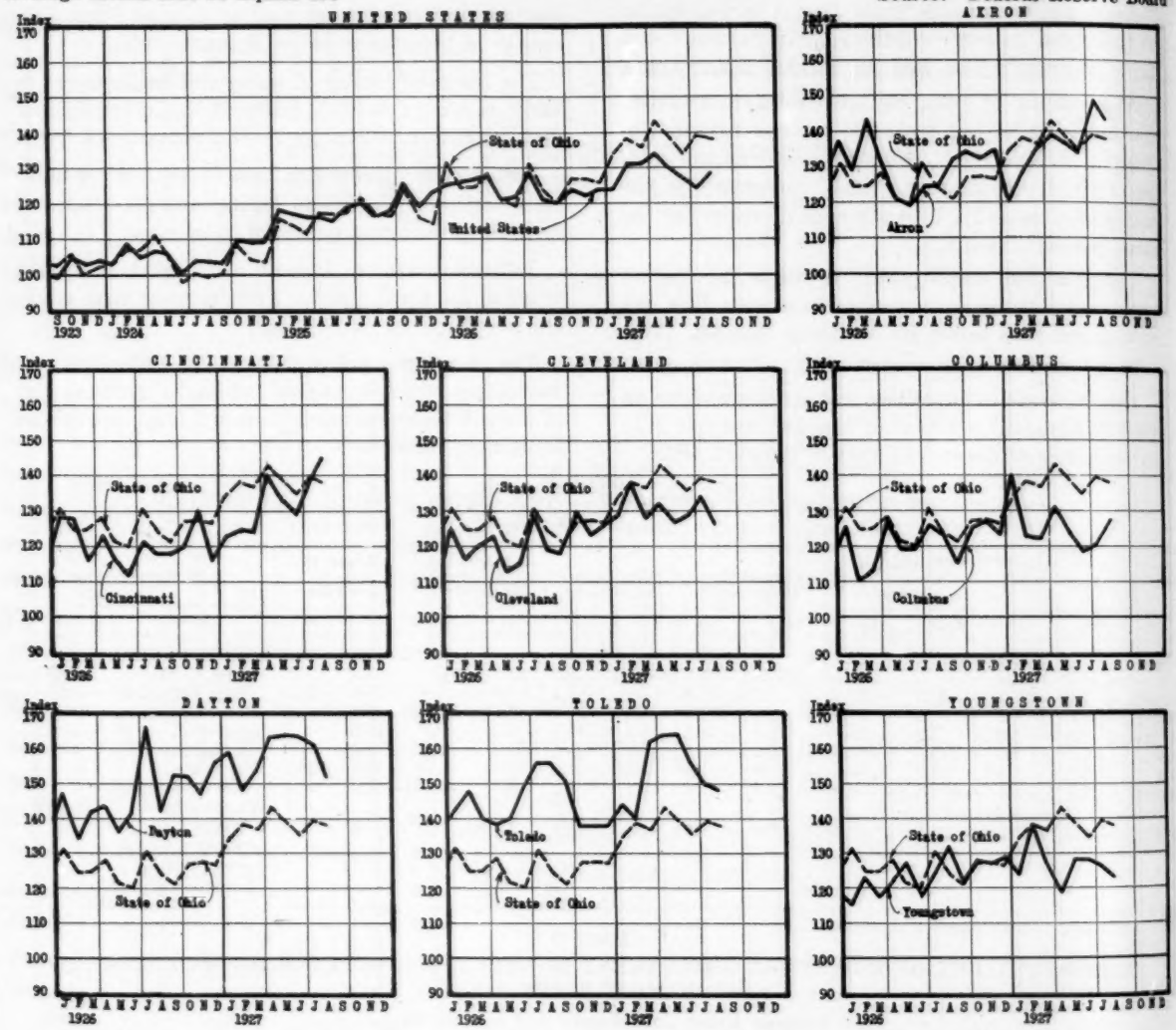


CHART II

BANK DEBITS IN OHIO CITIES

Corrected for Seasonal Variation

Average Month 1920-24 Equals 100 Source: Federal Reserve Board



OHIO BUSINESS CONDITIONS AS REFLECTED IN BANK DEBITS (CHECK PAYMENTS)

The Ohio bank debits series turned downward slightly in August from 139.6 to 137.8 (see Chart II). Notwithstanding the fact that the series for Ohio and the United States have been seasonally corrected, it will be noted that in August, 1926, both of them turned downward and then upward again in September. The United States bank debits series turned upward in August, 1927, by about the same amount that the Ohio series turned downward. The Ohio series continues on a higher level than the United States series. The Ohio index was 8 per cent higher in August, 1927, than in the same month of 1926. The United States index was 5 per cent higher in August, 1927, than for the same month of 1926.

The declines in the respective bank debit series for the cities of Ohio were large in Dayton, Toledo, and Youngstown, as compared with relatively unimportant declines in Cleveland and Akron. There were increases in the series both for Cincinnati and Columbus.

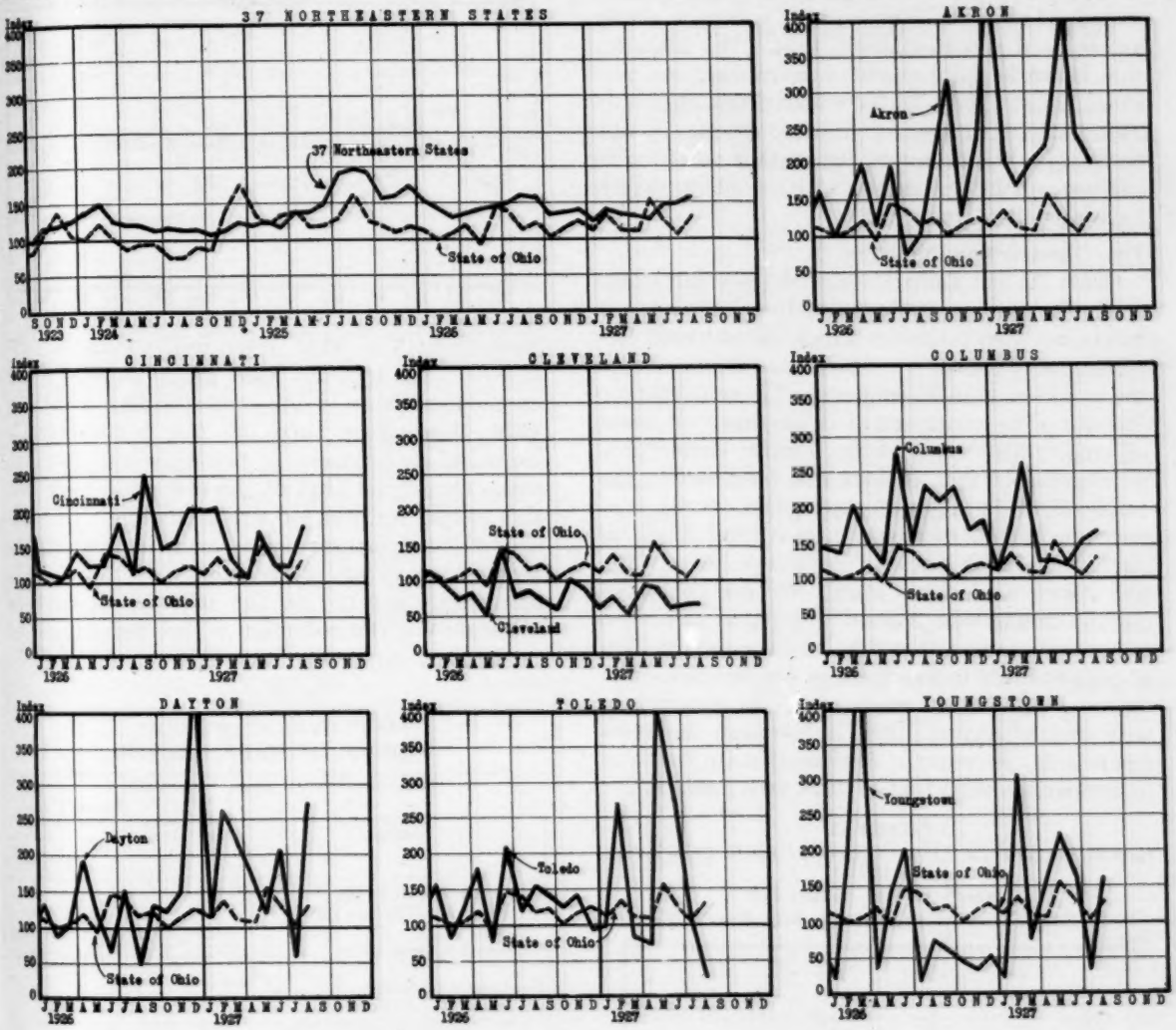
The upward trend of the movement of the various indexes for the several cities since 1924 is indicated roughly by the extent of their positions above 100. The cities attracting particular attention for the rapidity of the upward trends of bank debits since 1924 are Cincinnati, Dayton, and Toledo. The trends in Columbus, Youngstown, and Cleveland have been below that for the State as a whole.

CHART III

FLOOR SPACE OF CONSTRUCTION CONTRACTS AWARDED IN OHIO

Corrected for Normal Seasonal Variation

Average Month 1920-24 Equals 100 Source: F. W. Dodge Corporation



OHIO CONSTRUCTION CONTRACTS AWARDED

Chart III above shows that the improvement in the floor space of Ohio construction contracts let in August as compared with July was larger than in the United States as a whole for the same month. A reverse situation prevailed in July as compared with June, when the total volume of floor space of contracts let in Ohio declined at the same time that it increased in the United States. While the Bureau records of employment in construction work in Ohio show a decline below the figures for corresponding months in 1926 the floor space of contracts let is still in excess of that in 1926. Moreover, the lower rates of interest and the decline in the cost of construction should tend to maintain the large volume of construction in the fall months of 1927. The stability of the construction industry in 1926 and in 1927 has been one of the most important factors in giving general stability to the industrial situation in the United States.

The August floor space of contracts let showed largest increases in the following Ohio cities: Cincinnati, Dayton, Youngstown, and Columbus. There were declines in Toledo and Akron, while the curve for Cleveland showed little change in direction (see Chart III above).

EMPLOYMENT IN OHIO

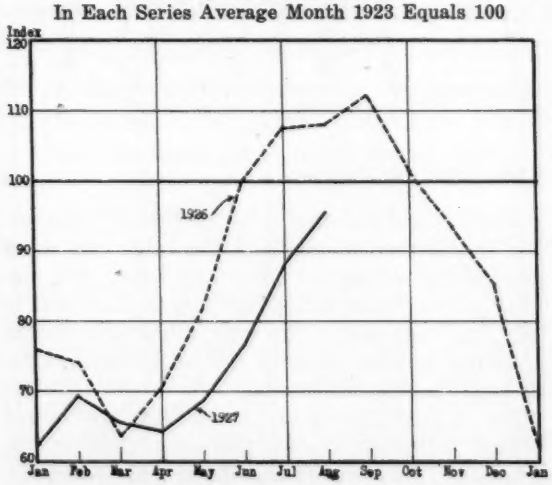
General Conditions

The composite index of industrial employment in Ohio as shown in the Bureau's Chart I, page 3, indicates that there is in progress a considerable industrial recession. Employment in Ohio is nearly as low as it was in August, 1924. The basis for this chart is employment data in the iron and steel industry and in the construction industry. The chart is of special value in giving in fair perspective the extent of the present recession in employment in comparison with conditions which have prevailed since 1922.

The Construction Industry

Chart IV and Table II show the present status of employment in the construction industry. It will be noted in the curve which has not been corrected for seasonal variation that September is the month of highest employment in construction. The curve on construction employment is based on employment reported by general contractors. It is probable that it does not fully reflect the employment in highway and public works construction which has been larger than usual in 1927. The floor space of contracts let in Ohio has shown an increase over 1926 for the seven months ending with August (see Chart III). The fall months should, therefore, show a continuation of improvement in construction employment. The decrease of August employment in comparison with that of August, 1926, is less than the average monthly decrease of construction employment in comparison with that of 1926 (see Table II).

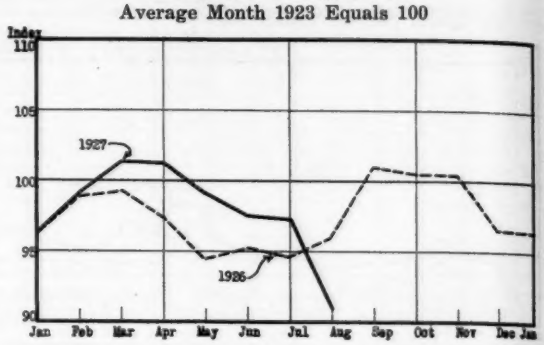
CHART IV
EMPLOYMENT IN THE CONSTRUCTION INDUSTRY IN OHIO
January 1926 to August 1927
In Each Series Average Month 1923 Equals 100



The Iron and Steel Industry

There was a decrease of 5.1 per cent in the August employment in the iron and steel industry.

CHART V
EMPLOYMENT IN THE IRON AND STEEL INDUSTRIES IN OHIO
January 1926 to August 1927
Average Month 1923 Equals 100



(See Chart V.) This is the first month of 1927 in which the iron and steel group showed lower employment than in the corresponding month of 1926. Heretofore, there has been a considerable excess of employment in foundries and machine shops shops over that of the preceding year, but this excess for August was negligible. The decline in blast furnace employment in August was larger than in any other month of 1927. This downward tendency in the industry is further illustrated in the reduction of the percentage of furnaces in blast (see Table II).

TABLE II
EMPLOYMENT IN OHIO
NUMBER OF WAGE EARNERS

Industry	July 1927	Aug. 1927	Change from Aug. 1926	Aver. Jan.-Aug. Change from 1926
A—CONSTRUCTION (85)*				
(Aver. Mo. 1923 = 100)			%	%
Actual	88.3	95.9	—11.2	—13.2
Corr. for Seas. Var.	74.1	79.4	—11.2	—12.3
B—IRON AND STEEL				
(Aver. Mo. 1923 = 100)				
Iron and Steel Group (75)	97.3	91.3	— 5.1	+ 1.5
Blast Furnaces (7)	89.1	71.9	—29.2	—12.1
Steel Works and Rolling Mills (12)	99.9	96.3	— 9.7	— 1.4
Foundries and Machine Shops (56)	96.4	89.9	+ .2	+ 4.7
C—AUTOMOBILE AND PARTS				
(Aver. Mo. 1923=100)				
Manufacturers (20)	89.4	86.9	—16.1	—11.4
D—METAL TRADES (213)**				
(Aver. Mo. 1925=100)	92.0	88.7	—13.5	— 6.2

* Figures in parentheses indicate number of reporting firms.
** From National Metal Trades Association.

Employment in the Metal Trades

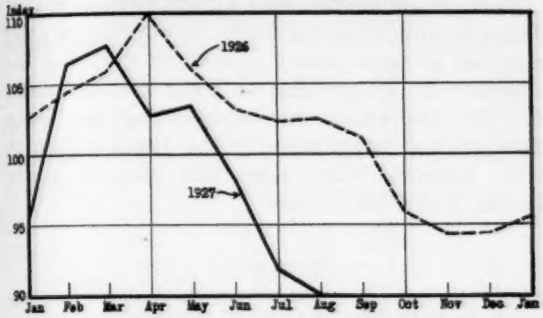
Chart VI shows that the decline in the metal trades employment continued in August although it was not so large as in July. It is another illustration of the present unsatisfactory situation in the iron and steel industry. (See also Table II.)

CHART VI

EMPLOYMENT IN THE METAL TRADES IN OHIO
Based on Five Cities

January 1926 to August 1927

Average Month 1925 Equals 100



Ohio Automobile and Automobile Parts Industry

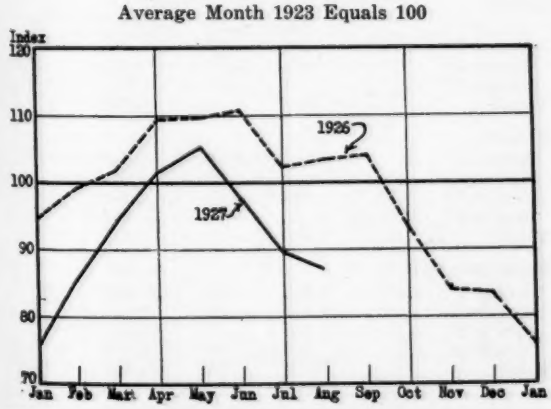
A series on employment in the automobile and automobile parts industry is presented in the Bulletin for the first time (see page 14 of this issue). August is usually a better month than July in this industry. The fact that August, 1927, showed a slight decline in employment as compared with August, 1926, indicates that the industry continues to show recession (see Chart VII). Improvement is expected, however, when the Ford plant gets into full operation as this will involve orders in the Ohio territory.

CHART VII

EMPLOYMENT IN THE AUTOMOBILE AND PARTS MANUFACTURERS IN OHIO

January 1926 to August 1927

Average Month 1923 Equals 100



REGISTRATION OF AUTOMOBILE BILLS OF SALE

The reports from 56 county clerks shown in Table III indicate that automobile bill of sale registrations in Ohio were substantially the same in August as in July. In the case of commercial cars there was a gain of 1.6 per cent in August over the July figures. The index of automobile bills of sale rigistrations for four of the most populous counties of the state shown in Chart VIII indicates an increase of I per cent in August bill of sale registration figures as compared with July.

TABLE III

REGISTRATION OF NEW AUTOMOBILE BILLS OF SALE IN OHIO COUNTIES, AUGUST, 1927

(The Counties Listed Represent over 80% of the Population of Ohio)

Source: Clerks of Courts of Listed Counties

County	County Seat	Passenger Cars		Commercial Cars	
		No.	Per Cent Increase Over Previous Month	No.	Per Cent Increase Over Previous Month
Allen	Lima	153	— 5	31	287.5
Ashtabula	Jefferson	207	—12.7	26	62.5
Athens	Athens	51	—33.8	3	— 40.0
Belmont	St. Clairsville	154	5.5	62	— 3.1
Brown	Georgetown	32	100.0	1	0
Carroll	Carrollton	22	29.0	1	— 50.0
Champaign	Urbana	75	10.3	11	— 15.4
Columbiana	Lisbon	225	— 7.0	17	88.9
Cuyahoga*	Cleveland	2955	— 3.6	191	— 17.3
Darke	Greenville	85	—13.3	7	75.0
Defiance	Defiance	62	—12.7	6	— 14.3
Fairfield	Lancaster	124	19.2	15	66.7
Fayette	Washington C. H.	58	20.8	4	0
Franklin	Columbus	885	13.3	57	—
Fulton	Wauseon	101	12.2	2	— 50.0
Gallia	Gallipolis	30	—16.7	1	— 66.7
Geauga	Chardon	17	6.3	4	—
Guernsey	Cambridge	73	9.0	10	25.0
Hamilton	Cincinnati	1339	16.0	158	— .6
Henry	Napoleon	61	7.0	9	200.0
Highland	Hillsboro	57	18.8	6	0
Hocking	Logan	47	62.1	2	0
Huron	Norwalk	128	9.4	15	200.0
Jackson	Jackson	52	4.0	7	133.3
Jefferson	Steubenville	191	3.2	22	23.5
Knox	Mt. Vernon	121	49.4	3	— 70.0
Lake	Painesville	154	— 7.2	13	8.3
Lawrence	Ironton	70	— 5.4	2	— 33.3
Licking	Newark	176	14.3	6	— 57.1
Lorain	Elyria	266	15.3	19	— 17.4
Lucas**	Toledo	682	— 6.6	65	—
Mahoning	Youngstown	512	— 6.9	68	17.2
Medina	Medina	102	1.0	9	80.0
Meigs	Pomeroy	32	—17.9	11	— 33.3
Miami	Troy	160	22.1	3	— 25.0
Monroe	Woodsfield	32	68.4	2	— 50.0
Montgomery	Dayton	660	8.0	70	11.1
Morrow	Mt. Gilead	30	—11.8	3	— 40.0
Muskingum	Zanesville	213	22.4	11	83.3
Ottawa	Port Clinton	76	— 6.2	5	25.0
Paulding	Paulding	44	— 2.2	4	300.0
Perry	New Lexington	49	0	3	— 40.0
Pickaway	Circleville	59	—13.2	5	25.0
Putnam	Ottawa	53	—	5	—
Ross	Chillicothe	75	5.6	8	33.3
Scioto	Portsmouth	156	— 1.3	23	4.5
Seneca	Tiffin	190	— 5.5	8	60.0
Shelby	Sidney	63	— 1.6	5	— 83.3
Stark	Canton	615	3.4	56	1.8
Summit	Akron	898	— 2.2	71	14.5
Trumbull	Warren	293	8.9	24	— 14.3
Union	Marysville	40	— 2.4	1	— 75.0
Vinton	McArthur	8	—	1	—
Wayne	Wooster	158	1.3	6	0
Williams	Bryan	93	24.0	3	200.0
Wyandot	Upper Sandusky	56	1.8	6	0
Total of Comparable Counties		13,148	— .2	1,047	1.6
Total of Listed Counties		13,209		1,175	

*Supplied by Cleveland Automobile Manufacturers' and Dealers' Association.

**Supplied by Toledo Automotive Trades Association.

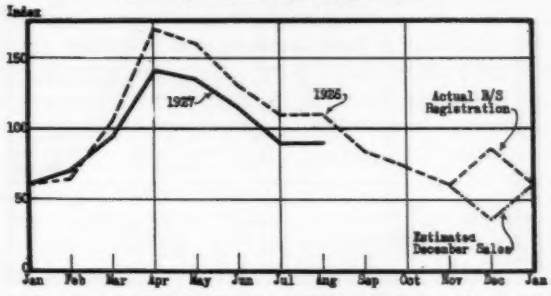
CHART VIII

INDEX OF NEW PASSENGER AUTOMOBILE SALES IN OHIO

Based on Registrations of Bills of Sale in Four Ohio Counties*

January 1926 to August 1927

Average Month 1926 Equals 100



* Cuyahoga (Cleveland), Hamilton (Cincinnati), Lucas (Toledo), and Summit (Akron). These represent over one-third of the population of Ohio.

It is also interesting to note in Chart VIII how nearly parallel the indexes for the two years are when plotted one below the other. The decrease of the registrations of the four counties in August, 1927, as compared with August, 1926, is slightly less than was the decrease of July, 1927, as compared with July, 1926.

It has been pointed out in previous months that the decrease in bill of sale registrations has grown out of the decrease in the sale of Fords. If Fords be eliminated from both years, the bill of sale registrations in the four counties in August would show an increase of about 3.5 per cent over August, 1926. The registrations (Fords eliminated) in these four counties for eight months of 1927 were 10.5 per cent above registrations in the same period of 1926.

Table IV shows that in the bill of sale registrations of Group II (the medium priced cars) for August, 1927, there was a material increase of registrations in each of the four large counties except Lucas. For all four counties the bill of sale registrations for medium priced cars exceeded those of August, 1926, by 25 per cent.

For no group except for the cheapest cars (Group I) was there a decrease in bill of sale registrations in August, 1927, as compared with August, 1926. This same statement also applies to the registrations in the four counties for eight months of 1927 ending with August as compared with the same period in 1926.

Table V on percentages of the various makes found in automobile registrations of the four chief counties of Ohio shows a striking gain for the Buicks. It is beginning to make a close second for the Chevrolets, notwithstanding the lower price of the latter make. The Buick's gain in Ohio, however, was larger than its gain in the United States as a whole.

TABLE IV

REGISTRATION OF NEW PASSENGER CAR BILLS OF SALE IN THE FIVE LARGEST COUNTIES OF OHIO

By Competitive Groups

In Cooperation with Ohio Council, National Automobile Dealers' Association

County	Aug. 1927	Change from Aug. 1926	Jan.-Aug. 1927	Change from Jan.-Aug. 1926
CUYAHOGA		%		%
Group I	614	—54	9,260	—33
Group II	641	+19	4,644	+ 1
Group III	1,485	+ 9	10,546	+ 7
Group IV	215	+ 9	1,649	+10
Total	2,955	—14	26,099	—13
HAMILTON				
Group I	348	—52	4,897	—20
Group II	334	+40	2,045	+ 7
Group III	593	+25	3,233	— 3
Group IV	64	+ 2	503	— 2
Total	1,339	—11	10,678	—10
LUCAS				
Group I	198	—62	3,243	—22
Group II	101	—23	993	—10
Group III	342	—20	2,435	—12
Group IV	41	—29	352	— 9
Total	682	—40	7,023	—16
SUMMIT				
Group I	300	—36	3,742	—20
Group II	220	+77	1,562	+34
Group III	346	+15	2,255	+ 5
Group IV	32	— 3	252	— 7
Total	898	— 3	7,811	— 6
FOUR COUNTIES				
Group I	1,460	—52	21,142	—27
Group II	1,296	+25	9,183	+ 4
Group III	2,766	+ 8	18,469	+ 2
Group IV	352	0	2,756	+ 3
Total	5,874	—16	51,550	—12

TABLE V

TOTAL REGISTRATIONS OF NEW PASSENGER CAR BILLS OF SALE IN FOUR OHIO COUNTIES*

By Makes and Competitive Groups

In Cooperation with Ohio Council, National Automobile Dealers' Association

	Group and Make	July 1927	Aug. 1927	Change from Aug. 1926	Jan.-Aug. 1927 Change from 1926
I	Chevrolet	1,198	1,065	— 12%	+ 36%
	Ford	286	121	— 92	— 65
	Star	90	62	+ 28	— 3
	Whippet	285	212	— 40	+ 15
Total		1,859	1,460	— 52	— 27
II	Dodge	174	219	— 45	— 62
	Erskine	16	7	—	—
	Essex	415	450	+ 67	+ 21
	Falcon-Knight	36	34	—	—
	Oldsmobile	168	178	— 13	+ 12
	Pontiac	416	408	+157	+230
Total		1,225	1,296	+ 25	+ 4
III	Auburn	78	78	+129	+ 62
	Buick	472	795	+ 5	+ 3
	Chandler	102	100	— 1	— 1
	Chrysler	323	367	+121	+ 80
	Davis	3	6	+200	— 13
	Diana	3	5	+150	— 59
	Elcar	13	15	+ 88	+ 75
	Flint	3	3	— 93	— 89
	Gardner	13	8	— 43	— 6
	Hudson	175	209	+ 45	— 6
	Hupmobile	95	97	— 28	— 6
	Jordan	52	45	— 4	— 10
	Kissel	3	5	— 38	— 56
	Moon	6	21	+ 5	— 48
	Nash	449	342	+ 7	+ 17
	Oakland	105	172	— 10	— 37
	Paige	66	63	— 16	— 45
	Reo	60	64	+137	+157
	Studebaker	171	208	— 13	— 8
	Velie	8	4	— 56	— 29
	Willys-Knight	163	155	— 25	+ 3
	Miscellaneous	5	4	—	—
Total		2,368	2,766	+ 8	+ 2
IV	Cadillac	27	20	— 70	— 40
	Franklin	22	14	— 22	— 5
	La Salle	37	52	—	—
	Lincoln	26	19	+ 6	+ 6
	Locomobile	11	9	— 59	— 41
	Marmon	49	3	+200	— 14
	McFarlan	1	43	+1,333	+484
	Packard	65	79	+ 10	+ 6
	Peerless	81	80	0	— 8
	Pierce Arrow	15	15	+ 25	+ 6
	Stearns	12	7	— 76	— 41
	Stutz	5	10	— 44	— 23
	Rolls Royce	2	1	—	+ 13
Total		353	352	0	+ 3
Grand Total		5,805	5,874	— 16	— 12

* Cuyahoga, Hamilton, Lucas, and Summit

GAS METER VACANCIES

Table VII below shows the indexes of gas meter vacancies for 1926 and 1927 for selected cities in Ohio. The data show a general tendency toward increasing vacancies in Ohio cities. The total increases in the indexes above the average for 1926 are small except in Columbus, where there is a more striking vacancy situation than in any of the other cities. Columbus showed an improvement in August. The volume of floor space of contracts let in Columbus in July and August showed a better than average increase over the corresponding months in 1927. While the vacancies affect mainly the more undesirable properties considerable vacancies are found in all classes of property in Columbus. The large increase in the Cleveland vacancies in July parallels the situation in July, August, and September of 1926, suggesting a relative increase in summer vacancies and a failure to correct fully for seasonal variations.

TABLE VI

SALES RANKING OF LEADING MAKES OF PASSENGER CARS BASED ON BILLS OF SALE REGISTRATIONS

Make of Car	Percentage of Total Bills of Sale Registrations					
	Four * Ohio Counties				6† Ohio Counties	U.S.‡
	Aug. 1927	July 1927	Aug. 1926	Jan-Aug 1927	Aug. 1927	July 1927
Chevrolet	18.2	20.6	17.2	23.5	17.9	20.9
Buick	13.6	8.1	10.8	7.2	13.3	9.1
Essex	7.7	7.2	3.8	6.7	7.5	7.9
Pontiac	6.9	7.2	2.3	5.2	7.1	5.2
Chrysler	6.2	5.6	2.4	5.7	6.4	6.1
Nash	5.8	7.7	4.6	5.2	5.9	5.4
Dodge	3.7	3.0	5.7	3.0	3.8	4.8
Whippet	3.6	4.9	5.0	5.1	3.6	4.2
Hudson	3.6	3.0	2.1	2.4	3.5	3.0
Studebaker	3.5	3.0	3.4	2.9	3.9	3.5
Oldsmobile	3.0	2.9	2.9	2.5	3.2	2.2
Oakland	2.9	1.8	2.7	1.6	3.2	1.6
Willys Knight	2.6	2.8	3.0	2.8	2.5	1.7
Ford	2.1	4.9	20.7	11.4	2.0	12.4
Chandler	1.7	1.8	1.4	1.6	1.6	.7
Group Total	85.1	84.5	88.0	86.8	85.4	88.7
All Others	14.9	15.5	12.0	13.2	14.6	11.3
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0

* Cuyahoga, Hamilton, Lucas, and Summit.
† Cuyahoga, Hamilton, Lucas, Mahoning, Stark, and Summit.
‡ Based on license registrations in 34 states as reported by *The Annalist*.

TABLE VII

INDICES OF GAS METER VACANCIES—JANUARY, 1926, TO DATE

Corrected for Normal Seasonal Variation

(In each series Average Month 1923 equals 100)

Source: Local Gas Companies

Month	Akron	Cleveland	Columbus	Youngstown
1926				
January	107.1	100.8	154.4	84.8
February	92.7	146.6	146.1	87.7
March	97.8	96.0	150.4	80.6
April	97.8	85.8	147.3	79.7
May	103.9	89.8	141.8	79.9
June	101.2	115.7	141.5	90.4
July	107.0	279.7	146.6	80.3
August	89.9	387.3	149.0	74.9
September	76.9	248.1	149.3	79.5
October	106.8	138.1	145.0	87.0
November	111.9	115.7	155.7	81.1
December	114.4	120.5	158.2	81.1
1927				
January	102.7	105.0	181.7	75.2
February	103.0	134.0	176.1	50.4
March	107.9	89.7	186.6	39.5
April	106.2	98.5	179.0	40.3
May	133.8	102.3	204.6	39.6
June	112.1	122.6	—	43.5
July	100.8	259.5	205.8	42.5
August	—	—	170.6	—

THE TREND OF BUSINESS

The Stock Market and the Business Situation

The month of August was characterized by lower rates of interest and cheaper call money and a boom in stocks. The large rise was in automobile and auto accessory stocks (see Table VIII). The chain store and mail order stocks also showed spectacular gains. General Motors has maintained its phenomenal growth and shows large increases in sales over the preceding year. It now has the two leading cars. The Chevrolet and the Buick together accounted for one-third of the August bill of sale registrations in four of the chief counties of Ohio, and in the United States as a whole 30 per cent of the July registrations were for these two cars. There was also a spectacular rise in the electrical equipment stocks. The steels, metals, and chemicals were strong notwithstanding the rather poor showing in the iron and steel trade in the month of August.

As set forth in the paragraph below on Banking and Credit the stock brokers' loans made a new high record in August. In the second week of September there was a drop of several points in the stock market which resulted from the calling of loans and the rise of the call loan rate to 4½ per cent. The present is a very critical time ation is rather disappointing. Even the most recent foreign trade figures are poor as compared with last year. The forecasters have placed considerable stress on the possibility of a stimulation to trade and industry from a more lively foreign industrial situation. The present prospect is that the fourth quarter of 1927 will be on a lower level in trade and industry than that of 1926. The earning reports of the third and fourth quarter will fall below those of 1926. A continuation of high call rates would surely bring a considerable liquidation in the stock market. But the recession tendencies in industry will probably be accompanied by cheap money and the market may receive strong support from the cheaper rates. The prices of stocks will, however, probably go lower before the end of the fourth quarter. The technical position of the market is poor and the general results of moving crops will probably disturb the low call rates and some more liquidation similar to that occurring in the second week of September will not be surprising. Moreover, there does not seem to be a good prospect of a substantial upward movement in trade and industry in the fourth quarter.

TABLE VIII

STANDARD INDICES OF THE SECURITY MARKET
COMMON STOCK PRICES—BY GROUPS

Source: Standard Statistics Company, Inc.

Group	Sept. 3 1927	Change in Points from Aug. 6*	1927 Range	
			High	Low
228 Stocks	185.1	+ 6.8	185.1	152.4
197 Industrials	196.5	+ 8.9	196.5	159.0
31 Rails	157.7	+ 1.8	157.8	135.7
10 Automobiles	344.1	+35.3	344.1	222.6
7 Auto Accessory	609.5	+66.4	609.5	373.4
11 Chain Stores	565.6	+34.3	565.6	412.3
7 Chemicals	213.0	+11.4	213.0	178.1
3 Coal	88.3	+ 2.3	89.4	60.7
10 Copper	124.0	+ 1.9	124.0	110.2
3 Electrical Equipment	364.0	+21.9	364.0	248.6
3 Farm Machinery	210.7	+ 4.8	210.7	148.0
9 Food	382.3	+ 9.7	232.3	306.1
5 Leather and Shoe	69.3	+ 3.3	69.5	56.9
5 Machine Manufacturers	108.9	+ 1.6	109.3	93.6
3 Mail Order	244.5	+30.3	244.5	175.0
12 Metals (Misc.)	164.6	+11.5	164.6	120.3
3 Paper	92.3	— 3.9	96.2	74.3
17 Petroleum	104.7	— 1.9	114.2	95.3
10 Railroad Equipment	216.9	+ 5.2	217.0	175.2
3 Shipping	17.6	— 2.2	24.6	18.1
9 Steel	160.0	+12.2	160.0	122.4
6 Sugar	69.8	+ 4.5	72.9	63.5
5 Telegraph and Cable	182.3	+ 1.0	182.3	163.7
5 Textiles	43.9	+ .1	45.3	36.5
3 Theaters	169.6	+14.2	191.1	155.4
7 Tires and Rubber	55.4	+ 4.9	55.4	42.6
7 Tobacco	202.8	+ 2.2	203.1	165.2
16 Traction, Gas and Power	262.8	+10.5	267.8	214.6
18 Miscellaneous (Indus.)	251.9	+ 7.9	251.9	207.9

* Indices shown in last Bulletin

Banking and Credit Conditions

The dominant characteristic of the present situation in the banking field is found in low interest rates and surplus lending capacity (see Table IX). Current interest rates on prime commercial paper are the lowest to be found at any time since April, 1925. Moreover, it does not appear that the Federal Reserve Banks are taking any steps to correct the current situation. On the other hand, their investments in United States bonds are now $26 millions higher than in August, 1926. Moreover, the August figures are $56.5 millions higher than those for July of the current year. The investment in United States bonds intensifies the easy money conditions now prevailing. It may be pointed out also that these easy money conditions tend to depress the call rate of interest and prevent a liquidation in the securities market.

The money market, however, showed some tendency to rally the first week in September when the prevailing commercial rate moved upward to 4 per cent again. In the second week of September there was some calling of loans by the New York banks with a resulting reaction of several points in the stock market. Call rates also went up to 4½ per cent.

Reference to Table IX will show that in August, during the rise in the price of stocks, there was also an inflation of loans to brokers in New York City. These loans made a new high record in August and are now higher than they were in

January and February of 1926 when a preceding stock market liquidation occurred.

TABLE IX

BANKING CONDITIONS

Source: Federal Reserve Board

Item	Average July 1927	Average August 1927	Change from Aug. 1926	Average Jan.-Aug. Change from 1926
INDEX OF BANK DEBITS*:			%	%
Ohio**	139.6	137.8	+ 9.0	+ 9.3
United States outside of New York City**...	124.0	128.8	+ 6.4	+ 2.9
New York City	156.4	160.0	+21.2	+11.2
INTEREST RATES:				
Call Money....	3.93%	3.63%	—21.1	— 6.5
Com. Paper, (60–90 days)...	4.30%	3.91%	— 8.9	— 1.2
Time Money, (4–6 Months)..	4.49%	4.11%	—12.0	— 1.8
New York Fed. Res. Rediscount Rate	4.00%	3.50%	— 9.8	+ 4.4
FEDERAL RESERVE ITEMS:				
Loans to Brokers, N. Y. C.***	$309.6	$318.1	+16.6	+ 8.3
Invest. in U. S. Bonds***	$380.8	$437.3	+26.0	— 2.6
Member Banks' Rediscounts***	$433.6	$412.7	—27.0	—18.0
Reserve Ratio..	78.3%	78.3%	+ 4.2	+ 4.9

* Average month 1920—24 equals 100
** Corrected for normal seasonal variation
*** In millions

Iron and Steel

The price of pig iron has continued to decline and daily production in the United States for August was slightly below that in July. (See Table X.) There was a similar decline in production in Ohio. The decline in production in comparison with the preceding month was less than it was in June and July. The slight increase in unfilled orders was also regarded as encouraging.

While there was some decline in the price of pig iron in the first week of September the rise in the price of scrap was pointed to as indicating a more lively demand. In the third quarter of 1927 the steel mills operated at about 70 per cent capacity, as compared with 82 per cent in the third quarter of 1926.

The chief support for the iron and steel business is found in the large volume of construction work which continues on a level not far from that which prevailed in 1926. The decline in automobile production is one of the chief explanations of the smaller demand for iron and steel. When the Ford Company gets into quantity production again an increase in orders from that industry may be expected. The large export demand for machinery affects the iron and steel industry favorably. The gradual improvement in the export trade of the United States is commonly relied upon as an encouraging factor in the current trade outlook. In the first seven months of 1927 the exports of iron and steel products amounted to 1,322,370 tons in comparison with 1,223,374 tons in 1926.

The average daily production of steel was a little higher in August than in July.

TABLE X

IRON AND STEEL CONDITIONS—AUGUST, 1927

Source: Iron Trade Review
Iron Age

Item	July 1927	August 1927	Change from Aug. 1926 %	Average Jan.-Aug. Change from 1926 %
PRICES:				
Pig Iron (per ton)	$ 18.56	$ 18.17	— 6.6	— 7.6
Finished Steel (per pound)...	$ .02367	$ .02367	— 2.6	— 2.3
Scrap (No. 1 wrought at Chicago, per ton).	$ 12.00	$ 13.45	— 8.8	— 6.4
UNFILLED ORDERS OF U.S. STEEL CORP. (tons).....	3,142,014	3,196,000	— 9.7	—16.2
OPERATIONS:				
Per Cent of Furnaces in Blast:				
Ohio.....	57.1	55.7	—23.2	—12.0
United States.	52.5	51.9	—10.2	— 4.8
Average Daily Pig Iron Production (tons):				
Ohio.....	23,215	22,526	—11.5	— 5.3
United States.	95,311	94,484	— 8.4	— 3.6
Average U.S. Daily Steel Production (tons)...	127,134	128,552	—16.2	— 4.7

Construction Contracts Awarded

While the August figures for building contracts let in 37 Eastern States show a decrease of 8 per cent in the value of contracts as compared with August, 1926, the decrease in floor space of contracts let was only 3 per cent, the major part of the decline being due to a large decrease in the value of public works and utilities contracts. (Table XI.) The contracts let in Ohio and in the Pittsburgh District in August were larger both in value and in floor space than they were in August, 1926. But contracts for highways and public works continued large in the Pittsburgh District and the increase in floor space was less than the increase in the value of contracts let. This was also true of Ohio.

The decline in contracts awarded in August was largest in New England, the Central West, and in Texas. There was also some decline in New York State and in Northern New Jersey. It is very interesting to observe, however, that in value

of contracts awarded the total of contracts in eight months of 1927 in 37 Eastern States is slightly larger than in 1926 for the same period.

An examination of the analysis of contracts let by the August Graphic Review shows that industrial building is the only classification where total construction is above normal. There was an improvement also in residential but a decline in commercial building, yet the latter two classes of construction are still below normal if the trend (normal annual increases) and seasonal factors be considered.

TABLE XI
CONSTRUCTION CONTRACTS AWARDED IN 37 EASTERN STATES AND BY DISTRICTS
AUGUST, 1927
Source: F. W. Dodge Corporation
(In Millions)

District	July 1927	Aug. 1927	Change from Aug. 1926	Average Jan.-Aug. Change from 1926
New York State and Northern New Jersey..	$156.9	$141.5	— 7.9%	— 0.7%
New England	31.1	40.0	—10.3	— 7.1
Middle Atlantic	53.7	69.9	+13.7	+22.8
Pittsburgh	66.7	71.8	+13.1	+ 2.7
Southeastern	44.1	47.4	+ 2.8	—24.2
Central West	150.1	154.1	—21.3	+11.1
Northwest	11.3	9.8	+14.0	—15.3
Texas	20.5	17.8	—18.0	+19.7
Total of 37 Eastern States.....	$534.4	$552.5	— 8.0	+ 1.0

Automobiles

The production of passenger automobiles and trucks in the United States continues to decline, the decrease for each month in comparison with the same month last year being greater than the decrease of the average 1927 month in comparison with the average 1926 month for the same period. The percentage of decline in the production of passenger cars in the United States for July, 1927, in comparison with July, 1926, was 26.4 per cent while the production for seven months of 1927 ending with July was only 15.7 per cent below the production for the same period in 1926 (see Table XII). This decline, however, is a decline in the production of Fords, as was shown by the bill of sale registrations in Ohio referred to on page 9 of this issue of the Bulletin.

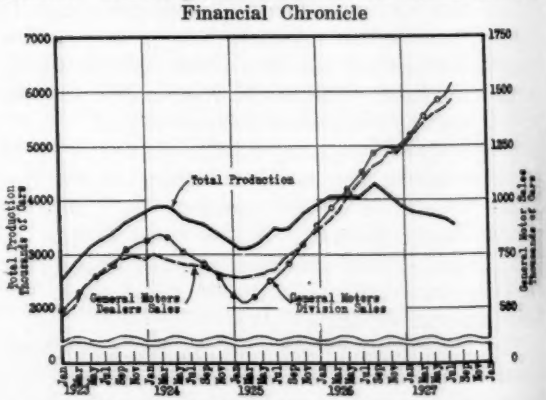
TABLE XII
AUTOMOBILE PRODUCTION IN THE UNITED STATES AND CANADA, AND GENERAL MOTORS SALES
Source: U. S. Department of Commerce
Commercial and Financial Chronicle

Group	June 1927	July 1927	Change from July 1926	Average Jan.-July Change from 1926
PASSENGER CAR PRODUCTION:				
United States.....	274,374	233,425	—26.4%	—15.7%
Canada	16,470	8,719	—32.7	— 1.7
U. S. and Canada..	290,844	242,144	—26.6	—15.1
TRUCK PRODUCTION:				
United States.....	40,178	29,981	—19.8	+ 2.1
Canada	2,733	2,268	+ .6	— 4.1
U. S. and Canada..	42,911	32,249	—18.7	+ 1.6
GENERAL MOTORS SALES:				
Dealers' Sales.....	159,701	134,749	+32.7	+35.1
Division Sales.....	155,525	136,909	+56.2	+41.0

It will also be noted that General Motors sales continue to increase (see Chart IX). The percentage of increase over the corresponding month of 1926 has grown larger as the Ford sales have grown smaller. It has been generally supposed that Chevrolets would not maintain their lead so decidedly when the new Fords appear. However, the increase in the sales of the medium priced cars as shown by an analysis of sales in Ohio in this issue and the increasing lead of the Buick will increase the difficulty for the new Fords to gain the old Ford lead.

Chart IX, showing a twelve months' moving average of total production, shows how the average monthly output of cars has been gradually declining since September, 1926. The direction of this curve will probably turn upward when the new Ford models are placed on the market.

CHART IX
TREND OF PASSENGER AUTOMOBILE PRODUCTION IN UNITED STATES AND CANADA AND GENERAL MOTORS SALES
End Centered 12 Months Moving Totals
Sources: U. S. Dept. of Commerce and Commercial and Financial Chronicle



Agricultural Situation

The August 1 *Agricultural Situation* states:

"The composite condition of crops in the United States on August 1 was 99. This indicates that crops were 1 per cent below their 10-year average condition on that date. This composite condition is 2.5 above the corresponding composite on July

1, and 5.6 lower than the composite of yields per acre last year.

"This year's total acreage in 19 cultivated crops is about 1 per cent less than that harvested last year."

The crop outlook on August 1 for the more important crops was as follows:

	5-Year Average Production (Millions)	1926 Production (Millions)	1927 Aug. Forecast (Millions)
Winter wheat (bu.)	556	627	553
Spring wheat (bu.)	252	205	298
All wheat (bu.)	808	833	851
Corn (bu.)	2,767	2,647	2,385
Cotton (bales)	13.5	18	13.5

The average farm prices in July, 1926, and 1927, for these crops were as follows:

	July Average 1910-1916	July 1926	July 1927
Cotton, per lb. (cts.)	12.7	15.4	15.5
Corn, per bu. (cts.)	70.1	71.5	92.4
Wheat, per bu. (cts.)	86.2	127.7	127.4

Agricultural purchasing power in terms of non-agricultural products has risen again to 87, which is higher than it has been in any July since 1925. The ratio of agricultural prices, 1910-14 averages, to non-agricultural prices, 1910-14 averages, was taken as 100.

Wholesale Prices

The striking fact about wholesale price statistics is found in the rise in the price of farm products (see Table XIII). Farm products in August were 6 per cent higher than they were in August, 1926.

Material price increases in the September 6 quotations over the average for August are found in the following groups: farm products, food, textile products, and fuels. Price declines in the September 6 quotations as compared with August prices are found in building materials and in the metals group.

TABLE XIII

INDICES OF U. S. WHOLESALE PRICES BY COMMODITY GROUPS—AUGUST, 1927

Average Month 1913 Equals 100
Source: The Annalist

Commodities	Sept. 6 1927	Aug. 1927*	Change from Aug. 1926
Farm Products	143.8	140.3	+ 6.0%
Food	152.7	150.7	— 3.7
Textile Products	157.3	151.4	— 1.3
Fuels	162.8	161.4	—11.4
Metals	120.9	121.2	— 4.7
Building Materials	156.7	159.9	— 3.1
Chemicals	134.0	134.0	— .9
Miscellaneous	120.4	120.6	— 1.6
ALL COMMODITIES	147.1	145.1	— 1.3

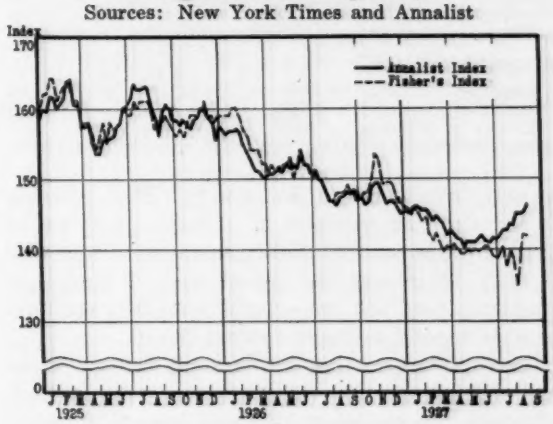
* Average monthly price index

Domestic Trade

There was an increase in department store sales in August, 1927, as compared with August, 1926, in all Federal Reserve districts except in Dallas, where there was a decline of 7.5 per cent. The average increase in August department store sales over those of August, 1926, in all Federal Reserve districts was 6.9 per cent. This increase is accounted for mainly by the fact that August, 1926, had five Sundays and August, 1927, had four. Chart I on page 3 of this issue shows that employment tends to forecast trade in the Cleveland Federal Reserve District. On this basis the early fall trade prospects are not very favorable at the present time in this territory. The Ohio dry goods index of daily sales stood at 81.9 in August, 1927, in comparison with 81.7 in July, 1927, and 84.9 in August, 1926. The August improvement was less than the usual seasonal gain in August, and the decline of August, 1927, in comparison with August, 1926, was 3.5 per cent. The department store sales in the Cleveland Federal Reserve District in August were 10.3 per cent above the sales for August, 1926. The index of daily sales for wholesale grocery firms in Ohio was 90.2 in August, 1927, as compared with 86.0 in July and 91.8 in August, 1926.

CHART X

WEEKLY INDICES OF WHOLESALE PRICES
January 1925 to September 6, 1927
Average Month 1913 Equals 100
Sources: New York Times and Annalist



Foreign Trade

The total exports of merchandise for July, 1927, were 6.1 per cent below the total for July, 1926, but the total for seven months ending July, 1927, is 5.5 per cent in excess of the total for the same period in 1926 (see Table XIV). The June increase in exports was 6.2 per cent above the exports of June, 1926. The July figures, however, are somewhat discouraging to those who expected the industrial revival beginning this fall to arise

TABLE XIV

FOREIGN TRADE OF CHIEF INDUSTRIAL NATIONS
(In millions)

Source: U. S. Department of Commerce
Commercial and Financial Chronicle

Country	June 1927	July 1927	Change from July 1926	Ave. Jan.–July Change from 1926
UNITED STATES (Dollars)			%	%
Mdse. Exports	359.0	346.0	— 6.1	+ 5.5
Mdse. Imports	359.0	319.4	— 5.8	— 7.3
Excess of Exports	0.0	26.6	— 9.5	—
Gold Exports	1.8	1.8	— 64.5	—34.5
Gold Imports	14.6	10.7	— 45.8	+20.7
Excess of Imports	12.8	8.9	— 39.4	+47.6
UNITED KINGDOM (Pounds Sterling)				
Exports	56.0	56.1	— 2.1	+ .7
Imports	99.3	93.4	— 6.9	— 1.1
Excess of Imports	43.3	37.3	— 13.3	+ 1.7
FRANCE (Francs)				
Exports	4,688	—	—	— 1.6
Imports	4,557	—	—	— 9.4
Excess of Exports	131	431	+ 89.0	—

largely from increases in exports. The declining imports are an evidence of a slight recession of trade in this country which has been in evidence in 1927. Moreover, the export trade of European countries does not yet support confident enthusiasm in regard to trade revival there.

Table XV shows that prices in the United States are still higher than they are in Great Britain, although the tendency has been toward a parity in prices between the United States and European countries.

TABLE XV

INTERNATIONAL WHOLESALE PRICE INDICES
Actual and in Terms of Gold

Pre-War Equals 100

Period of Time	United States (Fisher's)	Great Britain (Crump's)	Italy (Milan Chamber of Commerce)	
			Actual	In Terms of Gold
July, 1927	139.3	135.0	492.3	139.7
August, 1927	138.9	135.8	485.6	136.6
Change from August, 1926	— 5.8%	— 4.3%	— 29.8%	+ 15.8%
Latest Figure	142.1	136.3	485.5	136.4
Date of Latest Figure	Sept. 3	Sept. 3	Aug. 27	Aug. 27

EMPLOYMENT IN THE PRODUCTION OF AUTOMOBILES AND AUTO PARTS IN OHIO

For the first time the Bureau of Business Research of Ohio State University is publishing an index of employment in the production of automobiles and auto parts in Ohio. A part of this index is based on employment figures in the industry as set forth by the Ohio Division of Labor Statistics. From 1925 to date, however, the Bureau is able to present its own index for the industry by reason of the cooperation of the manufacturers of Ohio. The reliability of the Bureau of Business Research index based on reports from firms employing about 35 per cent of the total employees in the industry in Ohio is shown by the comparison of the 1925 index based on these figures with the 1925 index based on the reports to the Ohio Division of Labor Statistics (see Table XVI and Chart XI). These two indexes show that the fluctuations of employment in the case of the firms reporting to the Bureau of Business Research were substantially the same in 1925 as the fluctuations of the total employment in the industry as shown by the figures of the Ohio Bureau of Labor Statistics, to which all the firms are required by law to report.

TABLE XVI

INDICES OF EMPLOYMENT OF WAGE EARNERS IN OHIO AUTOMOBILE AND AUTOMOBILE PARTS MANUFACTURERS

January, 1922, to August, 1927

In Each Series Average Month 1923 Equals 100
Source: Ohio Division of Labor Statistics

Month	Ohio Division of Labor Statistics				Bureau of Business Research Ohio State University		
	1922	1923	1924	1925	1925	1926	1927
January	53.3	91.1	97.6	82.2	81.3	94.8	75.8
February	55.4	99.4	101.4	88.0	87.9	98.8	85.4
March	63.4	106.7	104.4	96.9	96.5	101.7	94.4
April	75.7	109.8	103.5	104.1	105.1	109.4	101.3
May	82.8	111.6	84.2	106.0	101.2	109.7	105.4
June	89.4	110.0	69.6	99.3	100.0	110.8	97.4
July	81.2	106.3	59.9	94.1	94.2	102.3	89.4
August	82.7	99.4	59.7	94.0	94.6	103.6	86.9
September	78.8	90.5	61.9	96.9	98.1	104.1	
October	70.5	90.2	61.9	102.9	104.0	93.3	
November	71.4	92.6	58.4	102.6	103.0	84.1	
December	75.4	92.4	59.3	91.6	92.6	83.6	

It is quite interesting to note that total employment in this industry in Ohio reached its peak in 1926 and that it approached this same peak in 1923. In June, 1926, the Ohio index of employment reached 110.8 and in June, 1923, 110.0.

The direction of the trend of employment in this industry in Ohio is similar to that for the United States. There is also a fairly close correspondence between the trend of the index of employment and the trend of an index of production in the automobile and auto parts industry. The employment figures, therefore, give a forecast of production since the Ohio figures will be about a month ahead of the United States production figures published by the United States Department of Commerce.

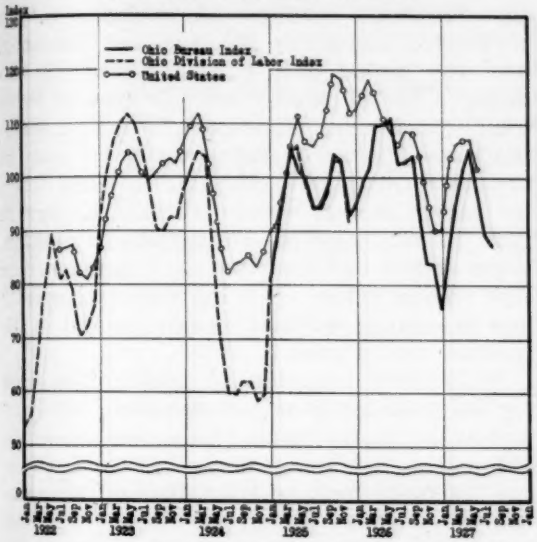
CHART XI

INDICES OF EMPLOYMENT OF WAGE EARNERS IN AUTOMOBILE AND AUTOMOBILE PARTS MANUFACTURERS IN OHIO AND THE UNITED STATES

January 1922 to date

In Each Series Average Month 1923 Equals 100

Source: U. S. Bureau of Labor Statistics and Ohio Division of Labor Statistics



RELEASE OF MERCHANDISE RETURNS STUDY

The first section of the Bureau's study on Merchandise Returns is being prepared for release to the press in a series of summaries of the material. Four or five releases will be furnished as summaries of the first section. Mr. George V. Sheridan, Managing Director of the Ohio Council of Retail Merchants, and Mr. C. E. Dittmer, Executive Director of the Ohio Retail Clothiers' and Furnishers' Association, are cooperating with the Bureau of Business Research in making this material available to Ohio retailers and their customers.

This study will be published in two sections. Section I will deal with reasons for returns, and Section II with such factors as the time merchandise is kept before returning, routine for handling returns, and methods of reducing returns.

The first section discusses the importance of returns as shown by the Bureau's study classified by merchandise lines and merchandise items. The relative importance of such reasons for returns as size, color, and late delivery is indicated in numerous charts.

While the study is not ready for public distribution, orders for delivery in November will be received now. The price of the first section is $2 to residents of Ohio and $3 to non-residents. The first edition of this material is quite limited but orders will be filled in the numerical order in which they are received as long as our stock lasts.

MANAGEMENT WEEK

For a number of years the Ohio State University has offered during National Management Week strong programs to business and industrial executives. This year promises to maintain this excellent record. Already definite arrangements have been made to present Mr. Karsten, nationally known in the field of forecasting and banking economics; Leo Wollman, organized labor's foremost statistician and economist; Miss Edith Miller of the National Bank of Commerce of New York; Dwight Lowell Hoopingarner, author of *Labor Relations in Industry;* Hugo Diemer of La Salle Extension University, who has recently published an excellent text on foremanship training; and A. B. Forsberg, Vice President of the Elliott Service, in charge of foremanship training.

A feature of this year's program will be the special foremen's conference session of the afternoon of Friday, October 28. The Psychological, Industrial Management, and Accounting groups also offer strong programs.

The Business Statistics Section of the Ohio Conference of Statisticians presents a joint program with the Management Week Committee of the Ohio State University, sessions to run Friday afternoon and evening. Dinner reservations should be addressed to Willis Wissler, Secretary and Chairman of the University Management Week Committee at the office of this Bulletin. The Engineering College will probably offer its program Thursday afternoon and night. A special effort is being made by the Committee to procure speakers of outstanding reputation in the field of aviation and aircraft.

Further announcements will appear in the next issue of this Bulletin and from time to time in the daily press throughout the State.

BOOK REVIEWS

The Economic Basis of Fair Wages, by Jacob D. Cox, Jr., Ronald Press, New York, 1926. 130 pp. $3.50.

Here we have another instance of the growing disposition of business executives to demand and even to attempt an applied economics which shall recognize and cope with the actual problems of day to day business. Mr. Cox starts out with an admirably impartial presentation of the conflicting fundamental beliefs of both employer and employee groups. From this he proceeds to a demonstration of the source of all production costs in labor costs. Having established his concepts of value, price, and prosperity upon the creation, existence, and movement of goods, he escapes the entanglements of "managed money" and finds his explanation for price changes in the effective supply and the effective demand of goods.

The integration of wages as labor costs to cost of living comes in for considerable discussion. Considerable statistical data are cited to demonstrate the futility of "boot-strap lifting" by blind wage increases. The text grows weaker and more discursive from this point on. As an attempt at the application of economic theory to industrial practice this book deserves thoughtful attention.

Labor Relations in Industry, by Dwight Lowell Hoopingarner, M.A., A. W. Shaw Company, New York. 553 pp.

This book is an attempt to organize the mechanics of labor management in accordance with a predetermined philosophy. The relative merit of this philosophy is of secondary importance to the circumstance that an effort has been made to develop the field of human relationship in industry with a unifying consistency. In this effort the book is a pioneer contribution.

The author, while disposed to be a bit sentimental at times in his sympathy with workers, has given excellent treatment to labor unions, cooperative management, wage determination, and profit sharing. There will be considerable dissent from his assumptions as to industries' responsibilities to workers as such, particularly in his discussion of unemployment.

The text is well documented and amply indexed. It is weakest in presenting administrative devices and routines. An excellent reading text for the student of industrial relations; it is hardly concrete enough to satisfy most busy executives.

Business Cycles, by W. C. Mitchell. The National Bureau of Economic Research, New York, 1927. 489 pp.

Dr. Mitchell is preparing two volumes on the business cycle. The first book of the series, which has already appeared, gives a summary of the economic theories of cycles, some analysis of national incomes and expenditures in their relation to cycles, an analysis of the banking and credit mechanism with computations of the rates of circulation of deposit currency and of money, and finally a review of the statistical methods that have been applied in measuring cyclical movements. The book contains the best measurements on the length of cycles anywhere available. It also contains the best statistical series which have been computed to measure the fluctuations in production and trade.

The second volume will contain a study of particular cycles. "We shall seek to find what features have been characteristic of all or of most cycles, and to concentrate attention upon them . . . ." (p. 469.)

These two volumes by Mitchell will doubtless be classics in economic and statistical literature. They will probably do more to relate statistical work with economic speculation than any other books which have appeared in this country.

Foremanship, by Glenn L. Gardiner, M.A., A. W. Shaw Company, New York, 680 pp.

This text constitutes the largest single book thus far issued dealing with foremanship. Its six hundred and eighty odd pages are distributed over five "books" titled "The Foreman" (in two parts), "The Foreman's Job," "Duties of Foremen," "Developing Foremen," "Practical Methods," and "Industrial Economics." As may be suspected from the overlapping in these titles, the rather unusual volume of material may in part be attributed to considerable repetition. Much of this text attempts the quasi-humorous style of shop patter which the author apparently uses in order to make an effective appeal to the foreman type of mind.

While there is considerable material designed for the guidance of major executives who may wish to help in determining the scope and method of foremanship training, the bulk of the text (unlike the recent text by Hugo Diemer, McGraw-Hill) is addressed to foremen themselves. The text is generously indexed.

Direct Method of Determining Cyclical Fluctuations of Economic Data, by Morten Allen Brumbaugh. Prentice Hall, New York. 73 pp.

While this book presents a method of eliminating trend and seasonal factors from a series by a comparatively short method, its content cannot be completely evaluated except by the technical statistician. The reviewer believes that the method will find useful applications. Its procedure is summarized as follows:

"1. Divide each item of original data by the item for the same season of the preceding year. (The relatives will begin one year later than the original data, but can be computed for any recent item as soon as such is available.)

"2. Compute the arithmetic average of these relatives. (If the result is greater than or less than 100 the trend residue is positive or negative respectively. If the result equals 100 there is no trend.)

"3. The variation from 100 of the average above represents trend residue. Divide the arithmetic average of the original data by each item of original data and multiply the results by the trend residue. This latter is the correction to remove the trend residue which is applied to each relative obtained in the first step.

"4. The remainders after the subtraction of this correction are the relatives of cyclical differences which we set out to obtain." (p. 27.)

CONVENTION CALENDAR

September 25	Seattle, Washington	Investment Bankers' Association of America. Clayton G. Schray, Assistant Secretary, 105 South LaSalle Street, Chicago, Illinois.
September 26-30	Chicago, Illinois	National Safety Council, W. H. Cameron, Executive Secretary, 108 E. Ohio Street, Chicago, Illinois.
September 26-29	Chicago, Illinois	American Bakers' Association, L. A. Ramsey, Secretary, 1135 Fullerton Avenue, Chicago, Illinois.
September 28-30	Pittsburgh, Pa	The American Society of Certified Public Accountants, D. W. Springer, Secretary, 736 Woodward Building, Washington, D. C.
September 27-30	Milwaukee, Wis	American National Retail Jewelers' Association, A. W. Anderson, Secretary, Neenah, Wisconsin.
September 27-29	Washington D. C.	National Chain Store Grocers' Association of the U. S. Alfred H. Beckmann, Secretary, 233 Broadway, New York City.
October 3	Los Angeles, Calif	American Federation of Labor. Frank Morrison, Secretary, A. F. of L. Building, Washington, D. C.
October 5-7	West Baden Springs, Ind.	The American Trade Association Executives. Ralph P. Stoddard, Secretary, 2121 Guarantee Title Building, Cleveland, Ohio.
October 8	New York City	Personnel Research Federation, Inc. H. H. Carey, Secretary, 40 West Fortieth Street, New York City.
October 13	New York City	Copper and Brass Research Association. Harry H. R. Spofford, Secretary, 25 Broadway, New York City.
October 17-19	Chicago, Illinois	The Associated Business Papers, Inc. Frederick M. Feiker, Managing Director, 52 Vanderbilt Avenue, New York City.
October 19, 20, 21	Chicago, Illinois	Direct Mail Advertising Association. F. L. Pierce, Secretary, 431 Howard Street, Detroit, Michigan.
October 19, 20, 21	Columbus, Ohio	International Association of Milk Dealers. R. E. Little, Executive Secretary, 228 North LaSalle Street, Chicago, Illinois.
October 24, 25, 26	Chicago, Illinois	Institute of American Meat Packers. W. W. Woods, Ex. Vice President, 509 South Wabash Avenue, Chicago, Illinois.
October 25-29	Pinehurst, N. C	American Institute of Steel Construction, Inc. George E. J. Pistor, Secretary, 285 Madison Avenue, New York City.
October 26-27	Washington, D. C	American Association of Advertising Agencies. James O'Shaughnessy, Executive Secretary, 247 Park Avenue, New York City.
Oct. 31, Nov. 1-2	New York City	Association of National Advertisers, Inc. Arthur H. Ogle, Secretary, 420 Lexington Avenue, New York City.

PUBLICATIONS OF THE BUREAU OF BUSINESS RESEARCH

The publications of the Bureau of Business Research are of three types: (1) regular bulletins reporting results of studies conducted by the Bureau; (2) special bulletins presenting preliminary or informal reports of limited scope and of interest primarily to certain trade groups; (3) monthly bulletins dealing with current business conditions, both in general and in special fields.

Bulletins in the regular series, when available for general distribution, will be sent upon receipt of check. Bulletins in the special series will also be generally available, but in limited quantities and subject to withdrawal on exhaustion of the supply. The list below contains the numbers, titles, and prices of the bulletins so far published:

REGULAR SERIES

No.	*Title*	*Price*
R-1	Salesforce Compensation and Expense of Ohio Wholesale Grocers—Year 1924	$ .50
R-2	A Uniform System of Accounts for Retail Furniture Dealers (price to residents of Ohio, $1.00) regular price	5.00
R-3	Housewives' Buying Habits in Columbus, Ohio—Year 1924	.50
R-4	Salesforce Compensation and Expense in Retail Furniture Stores of the Ohio Valley—Year 1924	.50
R-5	The Ten-Payment-Plan of Retailing Men's Clothing	.50
R-6	The Construction Industry in Ohio	1.00
R-7	Ohio Employment Studies	.50
R-8	Money Lending Practices of Building and Loan Associations in Ohio	.50
R-9	The Social and Economic Relations of the Farmers with the Towns in Pickaway County, Ohio	

SPECIAL SERIES

(Prices for Special Series Refer to Distribution Outside of Ohio)

X- 1	Survey of Ohio Retail Dry Goods Advertising—Year 1924	
X- 2	Survey of Ohio Retail Clothing Advertising—Year 1924 (out of print)	
X- 3	Operating Results of Ohio Wholesale Grocers—Year 1923	.50
X- 4	Operating Results of Ohio Wholesale Grocers—Year 1924	.50
X- 5	Content of Advertising Courses in Colleges of Commerce—Agency Suggestions	.50
X- 6	Sales, Outstandings, and Advertising of Ohio Retail Dry Goods Dealers—Year 1925	.50
X- 7	Training for Retail Advertising (out of print)	.50
X- 8	Operating Results of Ohio Wholesale Grocers—Year 1925	.50
X- 9	Delivery Costs in the Wholesale Grocery Trade	.50
X-10	Influence of Ten-Payment-Plan on Prestige of Stores — (complimentary with purchase of Ten-Payment-Plan)	.50
X-11	Location, Circulation, and Rates of Ohio Daily Newspapers	.50
X-12	Operating Results of Ohio Wholesale Grocers—Year 1926	.50
X-13	Section I—Merchandise Returns in Department Stores—(released Sept. 1)	
X-13	Section I—Merchandise Returns in Department Stores	($2.00 in Ohio; $3.00 outside Ohio)

Proceedings of Management Week 1925 (all sections—cloth binding)	$2.00
Office Management Section	.50
Production Section	.50
Marketing Section	.50
Accounting Section	.50
Proceedings of Management Week, 1926	
Business Statistics Section	.50
Industrial Management Section	.50
Elimination of Waste Section	.50